

An attempt was made to measure the speed of the birds by the method described by Professor Stebbins and Mr. Fath in 'Science' for July 13, 1906. Two telescopes are placed a measured distance apart on a line running north and south. The lines joining the telescopes with the moon are practically parallel, and the time taken for a bird to pass between these lines gives the rate of flight. On this evening only two birds were seen by both observers. The birds were flying southward. Professor Stebbins's calculations indicated that the rate of one was about sixty-eight miles an hour and that of the other about ninety-three miles an hour. — F. W. CARPENTER, *University of Illinois*.

A Migration Disaster in Western Ontario.—The early days of October, 1906, were warm and damp, but on the 6th came a north wind which carried the night temperature down to nearly freezing. Near there it stayed with little variation until the 10th, and on the 10th, the north wind brought snow through the western part of Ontario. At London there was only 2 or 3 inches, which vanished early next day; and the thermometer fell to only 32 degrees on the night of the 10th, and to 28 on the 11th, but ten miles west, there was 5 inches of snow at 5 P. M., Oct. 10, and towards Lake Huron, at the southeast corner, between Goderich and Sarnia, the snow attained a depth of nearly a foot and a half, and the temperature dropped considerably lower than at London. On that night, apparently, there must have been a heavy migration of birds across Lake Huron, and the cold and snow combined overcame many of them, so that they fell in the lake and were drowned.

Thanksgiving day fell on the 18th, and Mr. Newton Tripp of Forest, spent the day on the lake shore, near Port Franks, and observed hundreds of birds on the shore dead, cast up by the waves. He wrote me about it next day, calculating 5000 dead birds to the mile, and I took the first train to the scene of the tragedy and drove out to the lake shore that night. On the morning of the 21st, I patrolled the beach south from Grand Bend, and after covering several miles and seeing only a few dead birds, I came at last to the region of death. At first the birds were not very close together, but eventually became so plentiful that in one place I put my foot on four, and saw as many as a dozen in four or five feet.

I began a census at once, which I continued until the lengthening shadows warned me to hurry on to the river so as to cross in daylight, but in the two or three hours spent in the count I recorded the following:

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| 1 Black-throated Green Warbler, | 4 Robins, |
| 1 Yellow Rail, | 5 Fox Sparrows, |
| 1 Blue-headed Vireo, | 5 Savanna Sparrows, |
| 1 Red-eyed Vireo, | 5 Palm Warblers, |
| 1 Yellow-bellied Sapsucker, | 7 Myrtle Warblers, |
| 2 Black-throated Blue Warblers, | 12 Lincoln Sparrows, |
| 3 Flickers, | 15 Ruby-crowned Kinglets, |

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| 18 White-crowned Sparrows, | 100 Winter Wrens, |
| 19 Rusty Grackles, | 130 Swamp Sparrows, |
| 20 Hermit Thrushes, | 131 Golden-crested Kinglets, |
| 22 Brown Creepers, | 153 White-throated Sparrows, |
| 24 Saw-whet Owls, | 358 Tree Sparrows, |
| 30 Song Sparrows, | 417 Juncos. |
| Total, 1845. | |

After consuming all the time I could spare in this work, I walked over two miles or so of beach, where the birds were more common than on the shore where the count was taken; this brought me within half a mile of the mouth of the Sable River, and I then crossed it and turned my steps inland to a railway station.

In Mr. Tripp's letter he spoke of the birds extending for miles along the beach, and I did not even touch the ground he mentioned.

After my return I wrote to various persons near the lake shore and the information received shows up this migration in rather a strange light. It appears that from below Grand Bend, the birds were very numerous until beyond Stoney Point, but towards Kettle Point they diminished and were not plentiful again until Blue Point, beyond which they were "laying six deep in one place." Thus it appears that from the region near Kettle Point to near Blue Point there were very few birds, while northeast of Kettle Point and southwest of Blue Point the destruction was very great.

The northeastern section, of which I covered perhaps two miles, would have approximately 1000 birds to the mile, and the whole section might be perhaps ten miles; the western section probably was thickly covered but the length is unknown, possibly three miles, or perhaps even ten.

The lighthouse keepers to the north report no damage, so it is likely that the migration was limited to the district referred to.

It was a surprise to me to learn that the birds crossed Lake Huron, but Mr. W. W. Cooke tells me that he believes that "the birds fly lengthwise of Lake Huron, *i. e.*, north and south, and also diagonally, northwest and southeast, in either case making the longest possible flight over water. The greatest distance they could find on Lake Huron would be less than 200 miles."

Whether this migration was a southern or southeastern one is hard to say. If southeastern, why were there few from Kettle Point (12 miles) to Blue Point, and if southern, why did not the birds, instead of flying parallel with the east shore, turn east and be saved? I hope some of the migration specialists may be able to throw some light on this matter.

In questioning the few residents I saw, they concurred in saying that this occurrence had no parallel in their experience.

A few notes on the status of the migration of the species in this disaster may be of interest.

The first migration of Juncos in any number was observed at London

September 30, and a vast number had passed before the date of the storm.

Tree Sparrows were just coming, and were first seen near London October 22.

White-throats began to arrive in numbers September 15, and no more were noted after October 14, one week earlier than their average date of departure.

Golden-crowned Kinglets arrived at London September 25, and the movement had nearly ceased by October 10.

Swamp Sparrows do not come under my observation very much in the fall, and the last was seen September 5.

White-crowned Sparrows passed through without notice.

Two Lincoln Sparrows were seen near London September 5 and 20, October 3 being the latest record in any year.

Not more than one Savanna Sparrow was noted on any day after October 3.

Fox Sparrows were not observed at London until October 28, though the average date of arrival is October 3.

The migration of Winter Wrens reached London September 15, and the last was noted September 20; since then, one specimen only, on October 30. The average date of the last specimen is October 22.

The Saw-whets were a surprise. They are rare in western Ontario, and one sees them only at intervals of many years. Evidently they migrate in considerable numbers.

The length of the Robin flight at London was from September 26 to October 5.

Flickers and Yellow-bellied Sapsuckers were last seen on October 7.

Red-eyed Vireos were last seen October 12, which is the very latest date I have, and have only one other October record.

Blue-headed Vireos were last seen on September 28.

Black-throated Blue Warblers were last seen on September 20, and Black-throated Green on October 3.

Hermit Thrushes had nearly all passed, but were seen until October 16.

I have been a careful student of migrations for many years, but the lesson of this storm shows how many species and individuals one may miss when the birds are silent.— W. E. SAUNDERS, *London, Ontario*.

Early Appearance of Certain Northern Species at Ottawa, Canada.—

Judging by the unusually early arrival of some of our northern wanderers, and the greater abundance of others this fall, there must be queer conditions prevalent to the north of us.

A Hawk Owl (*Surnia ulula caparoch*) was shot and bought to me October 9, and another was seen at the same time. At that time it was very mild here. Several more were brought to a local taxidermist.

The Goshawk (*Accipiter atricapillus*) in the blue plumage, is far more abundant than usual. On October 18 a large, fine female was shot by a farmer across the river, in the act of carrying away a good-sized Plymouth